



## Reflections on technological developments and tactical superiority

Free Reflection

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Tactique générale

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### **Is the evolution of weapons "central to the understanding of battles" or on the contrary "unworthy of academic study"?**

I believe I must respond to the words of an eminent colleague in a recent issue of the *Lettre de la doctrine* (1) I would also like to mention a number of historical examples, the interpretation of which seems to me to be tainted by a certain mythology.

The question is not whether the evolution of weapons is "central to the understanding of battles" or, on the contrary, "unworthy of academic study". No serious historian has ever questioned the importance of the evolution of armaments and its link with that of tactics. Conversely, examples of the reduction of the factors of tactics to that of armaments alone are legion and the resulting misinterpretations have often led to serious miscalculations.

It is relatively easy to observe the physical effects produced in combat by a unit equipped with such armament. It is infinitely more complicated to isolate, in the causes of the results of a battle, the physical effects from the psychological effects, and even more so, among the countless factors influencing tactical effects, which is due exclusively to the technical characteristics of the weapons. The devastating effects of a new weapon have always astounded contemporaries, focused commentary, provided the vanquished with an alibi, the victor with a motive for glory, the gun dealer with an advertisement, the monarch with a good reason to raise taxes.

And to all of them an excellent reason to neglect the study of a multitude of other factors, a study that is politically dangerous, economically inept, intellectually arid, and for which the ancients lacked the tools of modern science and technology. Hence a universal tendency to "reductio ad technologia", aggravated by the scientist turn of the Enlightenment and then by the pretense of "reductio ad technologia". theenne pretension of modern industry, which was hardly shaken by the new human sciences, which were

significantly described as "soft".

The superiority of the legion over the Macedonian phalanx owes more to the manipulative articulation adopted after the Samnite wars and linked to the social and military reforms of the Republic, to a rigorous organization and discipline, a national tendency to learn from defeat and to adopt foreign equipment and materials as soon as they are tried and tested (2) to a supposed ease of rotation, given to the legionnaire by his pilum compared to the cumbersome sarisse: if the sarisse was technically condemned in the 2nd century BC, how would the pike have dominated the battlefields again from the 15th to the 17th century AD?

It was neither the carronades, an "innovation" more than twenty years old at the time, nor the choice to "break the line", a tactic already practiced by Suffren on several occasions. (3) The victory of Trafalgar made Nelson a legend, but the overwhelming manoeuvring superiority of his captains and gabiers, who had been moored by fifteen years of cruising, made him a legend. The overwhelming manoeuvring superiority of its captains and its gabiers, moored by fifteen years of uninterrupted cruises in front of Brest and Rochefort, paid for by serious mutinies, in the face of French crews disorganised by the Revolution, deprived of officers by the Terror and emigration, and stuck in port for many years. Not to mention the use of a more efficient code of signals and the difficulty for the allies to coordinate the manoeuvres of ships and crews from two different languages and nations.

The defensive success of the 93 Highlanders at Balaklava is hardly an image of Epinal and probably owes little to the muskett rifle pattern 1851, rifle rifle but of large caliber and still reduced range, with percussion lock and muzzle loading, developed to fire the French Minié bullet. In this case, there is nothing extraordinary that a secondary cavalry attack given uphill by very light cavalry could have been carried out by the French Minié bullet.cavalry (Cossacks have always been known in the Russian army for their poor fire resistance), with a lower strength of a third and without artillery support, against an infantry formed according to the rule of time and universally recognized for two centuries for the power of its fire and its firmness in defense (the generals of Spain said it was impregnable), was repulsed. This is why the exceptional merits of the 1851 pattern were so little recognized that its production lasted only two years. (4) and that it was immediately replaced by the Pattern 1853, of smaller and more precise caliber, qualities which would not have given him any advantage against the cavalry on the hills of Balaklava...

While Reffie's machine guns were well employed as artillery batteries in 1870, it does not follow that they were deployed 'behind infantry movements' and away from the line of fire. Because of their range and tight trajectories, the French artillery, unlike their opponents, were precisely because of their range and tight trajectories, were not very capable of firing over the troops and therefore continued to deploy in front of the line, and machine guns were no exception. And if it was not until 1913 that the infantry actually had machine guns (at the rate of one two-piece section per battalion), it was undoubtedly above all that the first materiel were similar to light artillery by their constraints of implementation and that their scarcity made their concentrated use more desirable to obtain important tactical effects.

No new weapon or system alone has ever explained a victory, a defeat, or an evolution of formations, devices and maneuvers constituting what is called tactics. Tactical success and failure always result from the combination of a multitude of technical, industrial, logistical, administrative, demographic, geographical, political, cultural, social, health, psychological, moral, organisational, etc. factors, and even more so from the confrontation, happy or not but always contingent, of one combination against another on

a particular terrain and in a particular circumstance. Hence the profoundly hazardous nature of the general and definitive "lessons" drawn in the emotion of the "affair" as well as subsequent interpretations. Hence also the apparent "blindness" of contemporaries, their slowness to adapt their methods and the propensity of their successors to always "prepare yesterday's war" in the belief that they are preparing the next one.

**Reducing military history to a statement of rational factors is futile, and trying to guess at future developments is worse. No simulation has ever been able to predict the tactical effects of a new weapon in a future battle. War has almost always proved to be the only valid test bed and the enemy not only the best but the only instructor (5). And it is not impossible that the contemporary pretension to predict the future, thanks to elaborate mathematical models based on data of doubtful reliability, may finally prove to be a vain avatar of the consultation of the Pythias.**

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(1) Colonel P. Santoni, Opportunités technologiques et perspectives tactiques, in Lettre de la doctrine n°7, CDEC, Paris, March 2017.

(2) For the technical imports practised by the Romans, to the pilum of Samnite or Gallic origin, and to the gladius of Iberian origin, we could add the scutum also of Samnite or Gallic origin, the Celtic-inspired helmet, the dolabra, the Gallic caligae, etc.

(3) With unequal happiness, especially considering the resistance of its captains and the ineptitude of its crews, precisely!

(4) Longevity compared to that of its predecessor, the Brown Bess, which remained in service from 1722 to 1838!

(5) As Captain Legrand shows very aptly, in the same issue of the same publication, about the results of the many experiments carried out before 1914 to determine the rules of use of the 75.

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